

IN THE SPECIFICATION

Please correct the name of inventor Paul [H.] Stallings to read Paul R. Stallings. Support for this amendment is found in the original oath and declaration, where his full name is shown as Paul Robert Stallings and his signature appears as Paul R. Stallings.

References in this section to amendments to page and line numbers in the specification refer to the Substitute Specification which was previously submitted.

Please replace the paragraph beginning at page 6, line 12 with the following rewritten paragraph:

-- In a procedural model, a surface in 3-dimensional space is defined in a parametric form by a function from \mathcal{R}^2 to \mathcal{R}^3 , which maps points from a 2-dimensional domain space (u,v) to a 3-dimensional image space (x,y,z). The parametric form for a surface may be expressed as[:] $S(u,v) = (x(u,v), y(u,v), z(u,v))$.

$$\cancel{S(u,v)} = \begin{bmatrix} x(u,v) \\ y(u,v) \\ z(u,v) \end{bmatrix}$$

Typically, u and v are bounded in some way, for example, $0 \leq u \leq 1$, and $0 \leq v \leq 1$, finishing the definition of the surface's domain space. The surface function determines the geometry of the surface by mapping each point in the domain space (u,v) of the function to a corresponding point in 3-dimensional space (x,y,z). The set of resulting points in (x,y,z) space is the geometry of the surface. --

Please replace the paragraph beginning at page 7, column 1 with the following rewritten paragraph:

-- Similarly, a curve in 3-dimensional space may be defined by a parametric function c from \mathbb{R}^1 to \mathbb{R}^3 , which maps points from a 1-dimensional domain space (t) to a 3-dimensional image space (x,y,z). Typically, t is also bounded in some way, such as $0 \leq t \leq 1$. The parametric form for the curve may be expressed as: $c(t) = [x(t), y(t), z(t)]$

$c(t) = (x(t), y(t), z(t))$.

$$c(t) = \begin{bmatrix} x(t) \\ y(t) \\ z(t) \end{bmatrix}$$

The curve function determines the geometry of the curve by mapping each point in the domain space (t) of the function to a corresponding point in 3-dimensional space (x,y,z). The set of resulting points in (x,y,z) space is the geometry of the curve. --

Please replace the paragraph beginning at page 8, line 24 with the following rewritten paragraph:

-- The present invention allows the user to easily and accurately transform the initial shape by any arbitrary function. Because the underlying geometry of a shape may be expressed as a set of functions and positions which define the set of all of the points of the geometry, these functions may be easily composed with any transformation function to create new functions. Function composition involves concatenating one function with another function, such that the output value of the first function is used as the input value of the second function. An example of a composition of two functions from \mathbb{R}^3 to \mathbb{R}^3 , where the first function is $f_1(x,y,z) = (x+1, y+1, z+1)$ and the second function is $f_2(x,y,z) = (x^2, y^2, z^2)$ could be expressed either as $f_2(f_1(x,y,z))$, or more conveniently as $f_2 \circ f_1(x,y,z) = \{(x+1)^2, (y+1)^2, (z+1)^2\}$ $f_2 \circ f_1(x,y,z) = ((x+1)^2, (y+1)^2, (z+1)^2)$. --

Please replace the paragraph beginning at page 9, line 11 with the following rewritten paragraph:

-- In order to transform the geometry of a shape by an arbitrary function, the functions and positions underlying the existing geometry are simply composed with the transformation function $f(x,y,z)$. For example, if one of the surfaces of the shape can be described by the surface function $s1(u,v) = (x(u,v), y(u,v), z(u,v))$,

$$s1(u,v) = \begin{bmatrix} x(u,v) \\ y(u,v) \\ z(u,v) \end{bmatrix},$$

and the transformation function f is defined as $f(x,y,z) = (x'(x), y'(y), z'(z))$, the new surface function $sf1$ will be defined as[:] $f \bullet s1(u,v) = (x'(x(u,v)), y'(y(u,v)), z'(z(u,v)))$.

$$f \bullet s1(u,v) = \begin{bmatrix} x'(x(u,v)) \\ y'(y(u,v)) \\ z'(z(u,v)) \end{bmatrix}.$$

Please replace the paragraph beginning at page 10, line 1 with the following rewritten paragraph:

--Similarly, if one of the curves of the shape can be described by the curve function $cl(t) = (x(t), y(t), z(t))$

$$c_1(t) = \begin{bmatrix} x(t) \\ y(t) \\ z(t) \end{bmatrix},$$

the new curve function c_1 will be defined as[.] $f \circ c_1(t) = (x'(x(t)), y'(y(t)), z'(z(t)))$.

$$\underline{f \circ c_1(t) = \begin{bmatrix} x'(x(t)) \\ y'(y(t)) \\ z'(z(t)) \end{bmatrix}.}$$